

PTO 08-5972

CC = JP
20010323
Kokai
13074359

SMALL ARTICLE STORAGE CONTAINER
[Komono shuno yoki]

Seika Yamawaki, et al.

UNITED STATES PATENT AND TRADEMARK OFFICE
WASHINGTON, D.C. JUNE 2008
TRANSLATED BY: THE MCELROY TRANSLATION COMPANY

PUBLICATION COUNTRY	(19):	JP
DOCUMENT NUMBER	(11):	13074359
DOCUMENT KIND	(12):	Kokai
PUBLICATION DATE	(43):	20010323
APPLICATION NUMBER	(21):	11250833
APPLICATION DATE	(22):	19990903
INTERNATIONAL CLASSIFICATION ⁷	(51):	F 25 D 23/04
INVENTORS	(72):	Seika Yamawaki, et al.
APPLICANT	(71):	000006013 Mitsubishi Electric Corporation
TITLE	(54):	SMALL ARTICLE STORAGE CONTAINER
FOREIGN TITLE	[54A]:	Komono shuno yoki

Claims

1. In a small article storage container furnished in a refrigerator door to project into the storage area and that is fastened to the front wall of a storage container that is open at the top,

a small article storage container characterized in having a small article storage part in which cylindrical bodies, in which small tubes can be stored and that are open at the top, are connected in an hourglass shape,

and an attachment part at the front that is fastened to the front wall of the aforementioned storage container.

2. The small article storage container described in Claim 1, characterized in that the internal diameter of the aforementioned cylindrical bodies is such that the caps of the aforementioned small tubes can be affixed.

3. The small article storage container described in Claim 1, characterized in being stored in a dead space formed when medium size food items are stored in the aforementioned storage container.

4. The small article storage container described in Claim 1, characterized in that 4 of the aforementioned cylindrical bodies are connected in an hourglass shape.

5. The small article storage container described in Claim 1, characterized in that, on the bottoms of at least 2 cylindrical bodies that are connected, the bottoms of two adjacent cylindrical bodies are furnished with a slit that is open continuously.

6. The small article storage container described in Claim 5, characterized in being constituted so that when the caps of the aforementioned small tubes are stored pointing upward, the aforementioned small tubes can be stored to the bottom of the aforementioned storage container.

7. In a small article storage container furnished supported on the inside of a refrigerator door to project into the storage area, and fastened to the front wall of a storage container that is open at the top and in which the front wall and the bottom are tilted to make it easy to remove food items,

a small article storage container characterized in that the shape of the back wall of the small article storage container fastened to the front wall of the aforementioned storage container is nearly vertical.

Detailed explanation of the invention

[0001]

Technical field of the invention

This invention relates to a small article storage container used in the door pocket of a refrigerator, etc.

[0002]

Prior art

Figure 7 is an oblique view of a conventional small article storage container shown in Japanese Utility Model No. Sho 55[1980]-10524, for example. In the figure, (1) is a small article storage container, and (1b) is an attachment part formed on the front of small article storage container (1) which is fastened to front wall (2a) of door pocket (2). Small article storage container (1) has a small tube storage part and a large tube storage part. A detachable support member (3), furnished with holes into which the caps of small tubes are inserted, is placed in the small tube storage part, and a guide plate (1e) is formed in the large tube storage part, giving a structure to make tube arrangement easy.

[0003]

As a citation of other prior art disclosed for a small article storage container, there is Japanese Kokai Patent Application No. Hei 10[1998]-103852.

[0004]

Problems to be solved by the invention

Because conventional small article storage containers are constituted as above, when small article storage container (1) is attached to front wall (2a) of door pocket (2), installation space is required. So when few tubes are stored or when no tubes are stored, it takes up space, with the problem that the amount of storage for bottles, packs, jars, etc., is reduced, and as a consequence, they have to be removed and stored elsewhere.

[0005]

This invention was devised to solve problems as described above. Its objective is to provide a small article storage container with which small food items, such as tubes, can be stored without reducing the amount of storage for bottles, packs, jars, etc.

[0006]

Means to solve the problems

The small article storage container pertaining to this invention is furnished in the inside of a refrigerator door to project into the storage area and is fastened to the front wall of a storage container that is open at the top, and has a small article storage part in which cylindrical bodies, that are open at the top

and in which small tubes can be stored, are connected in an hourglass shape, and an attachment part at the front that is fastened to the front wall of a storage container.

[0007]

The internal diameter of the cylindrical bodies is also such that the caps of small tubes can be affixed when small tubes are stored.

[0008]

It is also housed in the dead space formed when a medium sized food item is stored in the storage container.

[0009]

Four cylindrical bodies are also connected in an hourglass shape.

[0010]

In the bottom of at least two cylindrical bodies that are connected, a slit open continuously in the bottoms of two adjacent cylindrical bodies is furnished.

[0011]

It is also constituted so that when the caps of small tubes are stored pointing upward, the small tubes can be stored to the bottom of the storage container.

[0012]

When furnished supported on the inside of a refrigerator door to project into the storage area and fastened to the front wall of a storage container that is open at the top and has a tilted front wall and bottom to make removal of food items easy, the shape of the back wall of the small article storage container fastened to the front wall of the storage container is nearly vertical.

[0013]

Embodiments of the invention

Embodiment 1

Below, Embodiment 1 of this invention will be explained referring to figures. Figures 1-2 show Embodiment 1. Figure 1 is an oblique view of a small article storage container, and Figure 2 is an oblique view of the refrigerator door pocket where the small article storage container is used. In the figures, (1) is a small article storage container, and constitutes a small article storage container in which four cylindrical bodies (1a), that are open at the top, are connected in an hourglass shape. The inner diameter of cylindrical bodies (1a) is set so that the cap of a tube can be affixed when an existing small tube, such as prepared wasabi, mustard, etc., is stored in cylindrical body (1a). Because of this, the tubes can be stored in a stable state.

[0014]

Moreover, in ordinary retail stores, small tubes of prepared wasabi, mustard, etc., from 2-3 suppliers are sold, and the major dimensions are nearly the same – the diameter of the cap part is 22 mm, the total length of the tube is about 145 mm, and the end of the tube is fused into a 40-mm flat shape. An attachment part (1b) is formed at the front of small article storage container (1), and as shown in Figure 2, small article

storage container (1) can be attached to or removed from front wall (2a) of door pocket (2), which is the storage container, because of it.

[0015]

As shown in Figure 2, door pocket (2) is usually designed so that large-mouthed bottles, etc., can be stored, so when medium-sized food items, such as milk packs or beer cans, are stored, a dead space is created inside door pocket (2). By attaching small article storage container (1) in this dead space, small food items, such as tubes, can be stored without reducing the amount of storage in door pocket (2).

[0016]

With the embodiment above, a small article storage container (1) having 4 cylindrical bodies (1a) was shown, but there is, of course, no restriction on this, and there could be any number of cylindrical bodies (1a) as long as they are within the length of the door pocket.

[0017]

Embodiment 2

Embodiment 2 of this invention will be explained below referring to figures. Figure 4 shows Embodiment 2, and is a cross section at A-A in Figure 2. In the figure, (1c) is a slit open continuously in two cylindrical bodies (1a) in the bottom of small article storage container (1). With the embodiment above, [tubes] were shown stored with the tube caps pointing downward in small article storage container (1), but by furnishing slit (1c), they can be stored with the tube caps pointing upward.

[0018]

When stored with the caps pointing upward, because the tubes can be stored to the bottom of door pocket (2), milk packs, etc., stored to the back of small article storage container (1) can be removed easily.

[0019]

Embodiment 3

Embodiment 3 of this invention will be explained below referring to figures. Figure 3 shows Embodiment 3, and is a cross section of a door pocket where a small article storage container is used. In this figure, door pocket (2) is a storage container provided with a slope in front wall (2a) and bottom (2b) so that food items will be easy to remove.

[0020]

When small article storage container (1) is attached to the inside of front wall (2a) of door pocket (2), by back wall (1d) of small article storage container (1) being formed to be nearly vertical, milk packs, etc., stored in door pocket (2) will be nearly vertical, and spillage of the contents caused by being stored at a slant can be prevented.

[0021]

Embodiment 4

Embodiment 4 of this invention will be shown below referring to figures. Figures 5 and 6 show Embodiment 4. Figure 5 is an oblique view showing the inside of a refrigerator door where a small article storage container is used, and Figure 6 is a partial enlarged cross section showing the inside of the door in the refrigeration compartment of the refrigerator. In Figure 5, cold air such as blown in from the back of

the refrigerator passes from top to bottom through a slit (4) furnished in the bottom of lower-level pocket (202) and upper-level pocket (201) supported on inner plate (10). The cold air is also blown from upper-level pocket (201) to lower-level pocket (202) through inner plate air path (5) furnished in the inner plate (10) of the door on the deep side of upper-level pocket (201). Thus, a rise in temperature around the pockets caused by the door opening and closing is controlled.

[0022]

As shown in Figure 6, food items (6) and (7) are stored in upper-level and lower-level pockets (201) and (202). Even with food items stored, an air path (5) furnished in inner plate (10) is constituted to send cooling air from upper-level pocket (201) to lower-level pocket (202). By using a constitution such as this, a rise in temperature around the pockets caused by the door opening and closing is controlled.

[0023]

Effects of the invention

The small article storage container pertaining to the present invention has a small article storage part in which cylindrical bodies, in which small tubes can be stored and that are open at the top, are connected in an hourglass shape, and an attachment part at the front fastened to the front wall of the storage container. So small food items, such as tubes, can be stored without reducing the amount of storage for bottles, packs, jars, etc., in the door storage container.

[0024]

The inner diameter of the cylindrical bodies is also such that the caps of small tubes can be affixed when small tubes are stored, so the tubes can be stored in a stable state.

[0025]

The small article storage container is also stored in the dead space formed when medium-sized food items are stored, so small food items, such as tubes, can be stored without reducing the amount of storage in the door storage container.

[0026]

By furnishing a slit that is open continuously in the bottoms of at least 2 cylindrical bodies that are connected, [tubes] can be stored with their caps pointing upward.

[0027]

It is constituted so that when a slit that is open continuously in the bottoms of two adjacent cylindrical bodies is furnished and [tubes] are stored with the caps of the small tubes pointing upward, the small tubes can be stored to the bottom of the storage container.

[0028]

When furnished supported on the inside of the refrigerator door to project into the storage area, and fastened to the front wall of a storage container that is open at the top and that is provided with a slope in the front wall and the bottom so that food items will be easy to remove, because the shape of the back wall of the small article storage container fastened to the front wall of the storage container is nearly vertical, milk packs, etc., can be stored nearly vertically, and spillage of the contents caused by being stored at a slant can be prevented.

Brief description of the figures

Figure 1 shows Embodiment 1, and is an oblique view of a small article storage container.

Figure 2 shows Embodiment 1, and is an oblique view of a door pocket where the small article storage container is used.

Figure 3 shows Embodiment 3, and is a cross section at A-A in Figure 2.

Figure 4 shows Embodiment 2, and is a cross section at A-A in Figure 2.

Figure 5 shows Embodiment 4, and is an oblique view showing the inside of the door in the refrigeration compartment of a refrigerator.

Figure 6 shows Embodiment 4, and is a partial enlarged cross section showing the inside of the door in the refrigeration compartment of a refrigerator.

Figure 7 is an oblique view of a door pocket where a conventional small article storage container is used.

Explanation of symbols

(1) small article storage container, (1a) cylindrical body, (1b) attachment part, (1c) slit, (1d) back wall, (2) door pocket, (2a) front wall, (2b) bottom, (201) upper-level pocket, (202) lower-level pocket, (4) slit, (5) inner plate air path, (6), (7) food item, (10) inner plate.

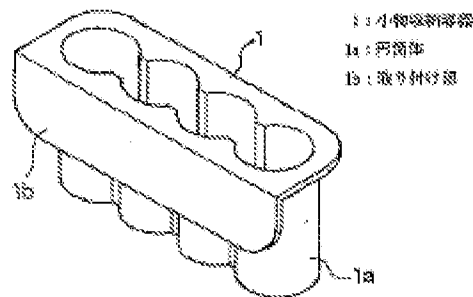


Figure 1

Legend: 1 Small article storage container

1a Cylindrical body

1b Attachment part

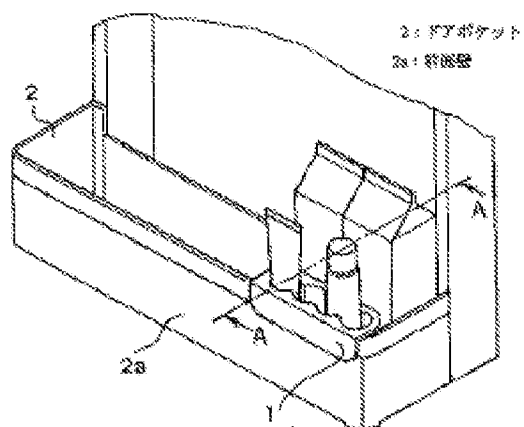


Figure 2

Legend: 2 Door pocket

2a Front wall

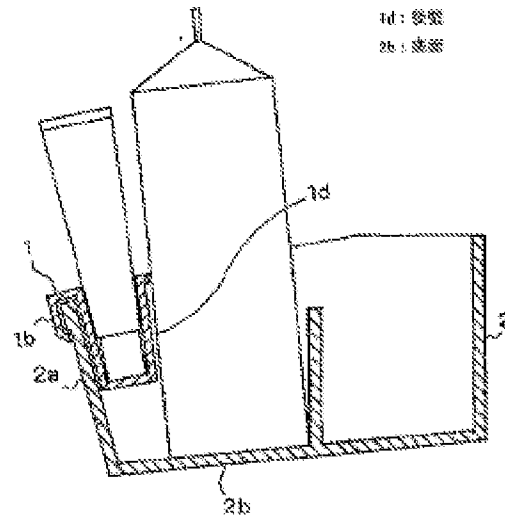


Figure 3

Legend: 1d Back wall

2b Bottom

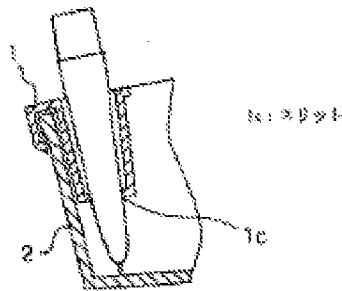


Figure 4

Legend: 1c Slit

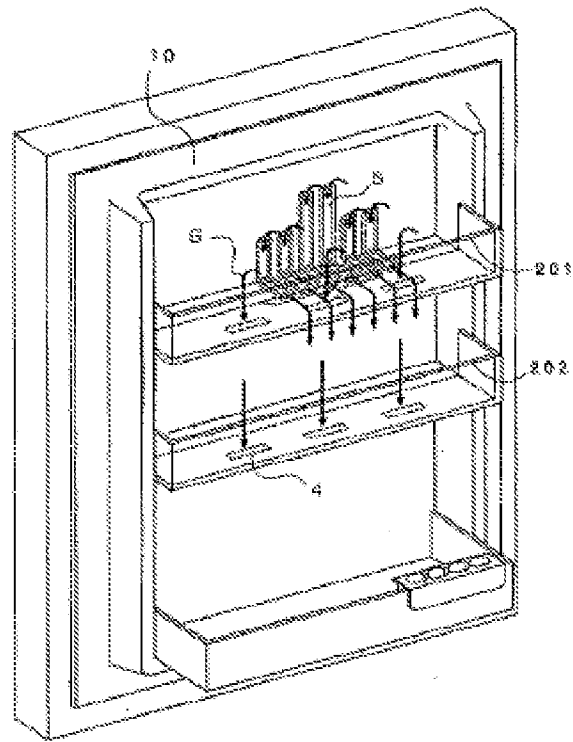


Figure 5

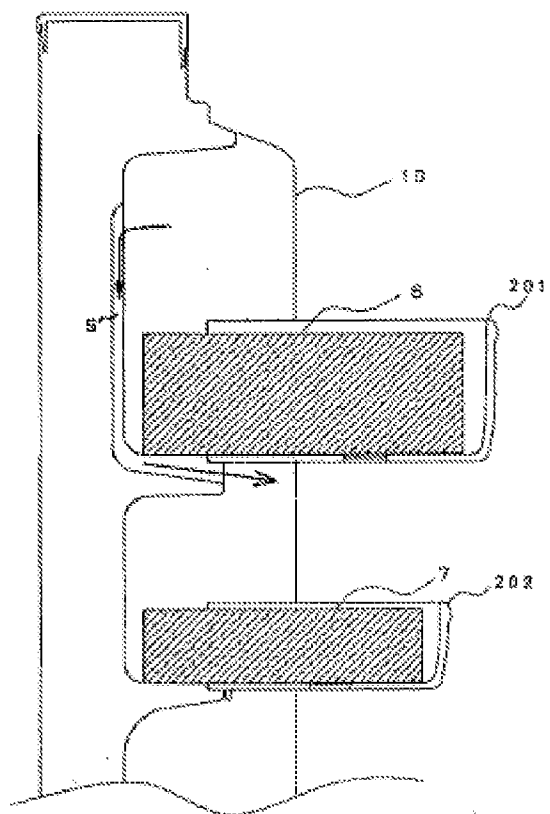


Figure 6

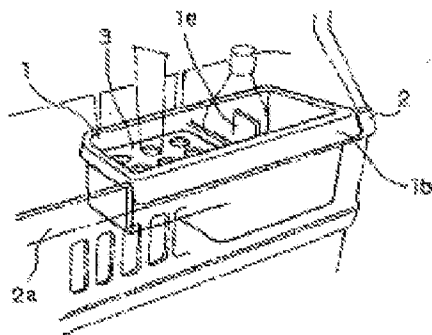


Figure 7